Conclusions: The HPV infection in Germany was lower than expected. Also in our investigation it appears that HPV positive patients have a better clinical outcome than HPV negative patients.

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SINONASAL UNDIFFERENTIATED CARCINOMA WITH BRAIN METASTASIS: A CASE REPORT AND REVIEW OF LITERATURE

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Introduction: Sinonasal undifferentiated carcinoma (SNUC) is a rare aggressive neoplasm arising in the nasal cavity and paranasal sinuses. Although intracranial extension from SNUC is common in patients with locally advance disease, distant central nervous system metastasis from SNUC is an extremely rare occurrence.
Methods and Materials: Herein, we present a case, and review the limited literature on overall management and outcomes of patients with SNUC and management and outcomes of patients with SNUC with brain metastases.
Results: We report a case of an 80 year old man who presented with a locally advanced SNUC involving ethmoid, sphenoid and maxillary sinuses and bilateral lymph nodes from level I-V, cT4N2cM0. Given his age and the initial extent of his primary tumour, he was treated with neo-adjuvant chemotherapy followed by palliative chemoradiation with a split course of 50 Gy in 40 fractions delivered twice a day. Four months after his treatments, he developed a recurrence at the left lower eyelid and left frontal sinus, intra-abdominal metastases and a left cerebellar metastasis. A single fraction of 22 Gy was delivered to the cerebellar lesion using stereotactic radiosurgery.
Upon review of the literature, we found only two cases reported of brain metastases that were not due to local intracranial extension from the original mass, in which detailed treatment information was reported. One patient with partially controlled local disease had a left temporoparietal lesion treated with a combination of bone marrow transplant and CAV chemotherapy and had a partial response. This patient died of disease at 8 months. The second case was treated initially with surgical resection and post-operative chemotherapy and radiation and lived for at least another two years while developing further metastases- at the time of the printed manuscript the patient was still alive.
Conclusions: We advocate that aggressive treatment of advanced SNUC may be pursued in selected patients. We suggest a registry for rare head and neck cancers such as SNUC to help guide treatment.

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STEREOTACTIC BODY RADIATION THERAPY WITH 48GY IN 3 FRACTIONS IS A SAFE AND EFFECTIVE TREATMENT FOR EARLY STAGE NSCLC PATIENTS

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Purpose: Stereotactic body radiation therapy (SBRT) has become the standard therapy for inoperable early stage non-small cell lung cancer (NSCLC) and is increasingly more accepted as an alternative to surgery in operable patients. Despite the widespread use of SBRT in early stage NSCLC, the ideal dose fractionation for treating peripheral lesions is yet to be identified. Our institution has pioneered the use of 48 Gy in 3 fractions as an SBRT dose fractionation schedule. We sought to evaluate the efficacy and toxicity associated with this regimen, in comparison to outcomes of patients treated at our institution with other commonly used SBRT dose regimens.
Methods and Materials: We retrospectively reviewed the medical charts and radiation oncology records of consecutive patient with inoperable early stage NSCLC (T1-2 N0 M0) treated with SBRT at our institution between May 2010 and March 2015. Demographic patient data and dosimetric data regarding SBRT treatments were collected. Local/regional control, distant failure and overall survival were analyzed. Acute toxicity (defined as toxicity < 90 days) and late toxicity (defined as toxicity > = 90 days) were also reported and graded as per standardized Common Terminology Criteria for Adverse Events (CTCAE) v4.0.
Results: A total of 179 consecutive patients with a median age of 74.5 years were included. Ninety-eight patients with 110 lesions received an SBRT dose of 48 Gy in 3 fractions over 5 - 7 days (Group 1). Eighty one patients with 86 lesions (Group 2) received other standard SBRT fractionation schemes (25- 60 Gy in 1 – 5 fractions). After a median follow of 20 months (range 6 – 95), 63% of patients treated with 48 Gy in 3 were alive. The crude rates of local, regional and distant failures in groups 1 and 2 were 12.7%, 9.1%, 15.5% and 22.1%, 17.4% and 23.5%, respectively. The odds ratio for local failure, regional failure and distant metastasis were 0.5, 0.5 and 0.6 respectively in favour of the 48 Gy in 3 dose fractionation. There were no cases of SBRT related Grade 3 or higher acute or late toxicity.
Conclusions: The use of SBRT 48 Gy in 3 fractions for peripheral early stage NSCLC is associated with excellent outcomes and compare favourably with published results of 54 Gy in 3 fractions, and 48 Gy in 4 fractions. The favourable toxicity profile associated with using 48 Gy in 3 fractions highlights this regimen as safe and convenient option for the treatment of peripheral lesions in close proximity to the chest wall.

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PROTON MAGNETIC RESONANCE SPECTROSCOPY (1H MRS) OF SPUTUM AND EXHALED BREATH CONDENSATE: A NON-INVASIVE TOOL FOR LUNG CANCER SCREENING

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Purpose: Lung cancer is the leading cause of cancer-specific mortality in North America. Main reason for the high mortality is the advanced stage at diagnosis in the majority of patients. Early detection of lung cancer by screening high-risk individuals has been proposed to improve survival. An effective screening program may prevent up to 80% of the deaths from lung cancer. We undertook this study to determine if 1H Magnetic Resonance Spectroscopy (MRS) of sputum and exhaled breath condensate samples can complement and or provide an alternate tool to screen and detect lung cancer among high-risk population.
Methods and Materials: Sputum and Exhaled Breath Condensate (EBC) samples were collected from 15 patients. Pathologically confirmed non-small cell lung cancer (NSCLC, n = 8), and patients with respiratory conditions other than lung cancer (controls, n = 7) were enrolled. Both sputum and EBC samples were collected in thirteen patients; two patients provided EBC samples only. Sputum samples were thawed and 250 mL of each sample was dispersed in 2M NaCl (prepared in PBS buffer) solution in the ratio 1:1 (v/v) and vortexed to get homogenous clear suspension; frozen EBC samples were thawed and 500 mL neat sample was transferred into the NMR tube (with a reusable co-axial capillary tube containing standard TSP solution in D2O) for analysis. All MRS experiments were performed on a Bruker Avance 400 MHz NMR spectrometer at the University of Winnipeg. In order to detect metabolite signals, the water signals in both EBC and sputum samples were suppressed using PRESAT or excitation sculpting pulse sequence. The MRS lab staff was blind to the diagnosis until all the samples were analyzed.
Results: In EBC samples, propionate was detected in 43% of the patients in both groups; with similar median concentration of the metabolite. Ethanol and acetate were detected in all patients, with relatively higher median concentration of the metabolites in the cancer group. Acetone and formate were detected in 75% and 50% of the cancer group and 43% and 57% of the control group, with higher median concentration of the metabolites in cancer group. Methanol was detected in 75% and 100% of the cancer and control group respectively, with median lower